

AMENDMENTS TO THE CLAIMS

1-6 Canceled.

7. (New) A defect inspection apparatus comprising:

a housing, wherein the housing accommodates a laser beam source, a beam polarization mechanism enabling a beam emitted from the laser beam source to be reflected so that the beam travels in the direction almost parallel to the beam emitted from the laser beam source, a beam expander for converting the beam to a parallel beam having a larger cross-sectional area, an objective lens, through which the parallel beam is reduced and applied to the surface of a sample;

a first control mechanism for controlling the beam polarization mechanism;

a second control mechanism for controlling the beam expander;

a first beam splitter for splitting the parallel beam in the light passage from beam expander to the objective lens into at least two split parallel beams;

a second beam splitter for further dividing at least one of the split parallel beams into at least two divided parallel beams;

a beam profile observation camera for observing the beam intensity profile of the cross-section of a first of the divided parallel beams;

a convergence lens for converging a second of the divided parallel beams;

a beam spot positioning sensor for detecting the position of a spot image converged with the convergence lens; and

an automatic control means for automatically controlling either or both of the first control mechanism and the second control mechanism on the basis of either or both of respective output signals from the beam profile observation camera, including information of the cross-sectional diameter of the beam, and from the beam spot positioning sensor, including information of the beam position displacement.

8. (New) The defect inspection apparatus as set forth in claim 7 further comprising:

an optical image observation mechanism for forming an enlarged image of the sample irradiated with the second divided parallel beam; and

an image comparison mechanism for comparing images of two areas on the sample obtained by the optical image observation mechanism to detect a defect.